

### ABSTRACT

The present invention relates to a system and methodology to facilitate negotiation, assignment, and management of interrupt resources in a flexible and dynamic manner. An interrupt arbitration system is provided to process at least one request associated with an interrupt resource, wherein the request includes at least two dimensions related to an interrupt and an interrupt service component. An arbiter processes the request and returns a subset of interrupt resource ranges in view of available system resources. This multi-dimensional mapping of resources enables coordination across resource pools, processors, buses, and/or other components while mitigating possible run-time problems attributed to one-dimensional systems that may find that suitable resources are unavailable.